STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

MUNICIPAL NPDES PERMIT MODIFICATION

issued to

Permittee:
Town of Redding
Town Hall, 100 Hill Road
Redding, Connecticut 06875

Location Address:
19 North Main Street
Redding, Connecticut 06875

Facility ID: 117-001 **Permit ID:** CT0101770 **Permit Expires:** January 27, 2008

Receiving Stream: Norwalk River

Design Flow Rate:
75,000 gallons per day prior to the completion of the facility expansion and upgrade.

245,000 gallons per day after the completion of the facility expansion and upgrade.

SECTION 1: GENERAL PROVISIONS

(A) This permit modification is reissued in accordance with Section 22a-430 of Chapter 446k, Connecticut General Statutes ("CGS"), and Regulations of Connecticut State Agencies ("RCSA") adopted thereunder, as amended, and Section 402(b) of the Clean Water Act, as amended, 33 USC 1251, et. seq., and pursuant to an approval dated September 26, 1973, by the Administrator of the United States Environmental Protection Agency for the State of Connecticut to administer a N.P.D.E.S. permit program.

(B) Town of Redding, ("permittee"), shall comply with all conditions of this permit including the following sections of the RCSA which have been adopted pursuant to Section 22a-430 of the CGS and are hereby incorporated into this permit. **Your attention is especially drawn to the notification requirements of subsection (i)(2), (i)(3), (j)(1), (j)(6), (j)(8), (j)(9)(C), (j)(10)(C), (j)(11)(C), (D), (E), and (F), (k)(3) and (4) and (l)(2) of Section 22a-430-3.** To the extent this permit imposes conditions more stringent than those found in the regulations, this permit shall apply.

Section 22a-430-3 General Conditions
- (a) Definitions
- (b) General
- (c) Inspection and Entry
- (d) Effect of a Permit
- (e) Duty to Comply
- (f) Proper Operation and Maintenance
- (g) Sludge Disposal
- (h) Duty to Mitigate
- (i) Facility Modifications; Notification
- (j) Monitoring, Records and Reporting Requirements
- (k) Bypass
- (l) Conditions Applicable to POTWs
- (m) Effluent Limitation Violations
- (n) Enforcement
- (o) Resource Conservation
- (p) Spill Prevention and Control
- (q) Instrumentation, Alarms, Flow Recorders
- (r) Equalization

Section 22a-430-4 Procedures and Criteria
- (a) Duty to Apply

(b) Duty to Reapply
(c) Application Requirements
(d) Preliminary Review
(e) Tentative Determination
(f) Draft Permits, Fact Sheets
(g) Public Notice, Notice of Hearing
(h) Public Comments
(i) Final Determination
(j) Public Hearings
(k) Submission of Plans and Specifications. Approval.
(l) Establishing Effluent Limitations and Conditions
(m) Case-by-Case Determinations
(n) Permit Issuance or Renewal
(o) Permit or Application Transfer
(p) Permit Revocation, Denial or Modification
(q) Variances
(r) Secondary Treatment Requirements
(s) Treatment Requirements
(t) Discharges to POTWs - Prohibitions

(C) Violations of any of the terms, conditions, or limitations contained in this permit may subject the permittee to enforcement action including, but not limited to, seeking penalties, injunctions and/or forfeitures pursuant to applicable sections of the CGS and RCSA.

(D) Any false statement in any information submitted pursuant to this Section of the permit may be punishable as a criminal offense under Section 22a-438 or 22a-131a of the CGS or in accordance with Section 22a-6, under Section 53a-157b of the CGS.

(E) The permittee shall comply with Section 22a-416-1 through Section 22a-416-10 of the RCSA concerning operator certification.

(F) No provision of this permit and no action or inaction by the Commissioner shall be construed to constitute an assurance by the Commissioner that the actions taken by the permittee pursuant to this permit will result in compliance or prevent or abate pollution.

(G) Nothing in this permit shall relieve the permittee of other obligations under applicable federal, state and local law.

(H) An annual fee shall be paid for each year this permit is in effect as set forth in Section 22a-430-7 of the RCSA. As of August 20, 2003 the annual fee is $ 1597.50.

SECTION 2: DEFINITIONS

(A) The definitions of the terms used in this permit shall be the same as the definitions contained in Section 22a-423 of the CGS and Section 22a-430-3(a) and 22a-430-6 of the RCSA, except for "Composite", "No Observable Acute Effect Level (NOAEL) " and "Grab Sample Average" which are redefined below.

(B) In addition to the above, the following definitions shall apply to this permit:

"------" in the limits column on the monitoring tables in Attachment 1 means a limit is not specified but a value must be reported on the DMR, MOR, NAR, and/or the ATMR.

"Annual" in the context of any sampling frequency, shall mean the sample must be collected in the month of July.

"Average Monthly Limit" means the maximum allowable "Average Monthly Concentration" as defined in Section 22a-430-3(a) of the RCSA when expressed as a concentration (e.g. mg/l); otherwise, it means "Average Monthly Discharge Limitation" as defined in Section 22a-430-3(a) of the RCSA.

"Bi-Weekly" in the context of any sampling frequency, shall mean once every two weeks.

"Completion of the facility expansion and upgrade" means when the "Phase III Expansion Facility", as approved by the Commissioner, is substantially complete so that it can be utilized for its intended purpose.

"Composite" or **"(C)"** means a sample consisting of a minimum of eight aliquot samples collected at equal intervals of no less than 30 minutes and no more than 60 minutes and combined proportionally to flow over the sampling period provided that during the sampling period the peak hourly flow is experienced.

"Critical Test Concentration" or **"(CTC)"** means the specified effluent dilution at which the permittee is to conduct a single-concentration Aquatic Toxicity Test.

"Daily Composite" or **"(DC)"** means a composite sample taken over a full operating day consisting of grab samples collected at equal intervals of no more than sixty (60) minutes and combined proportionally to flow; or, a composite sample continuously collected over a full operating day proportionally to flow.

"Daily Concentration" means the concentration of a substance as measured in a daily composite sample, or, arithmetic average of all grab sample results defining a grab sample average.

"Daily Quantity" means the quantity of waste discharged during an operating day.

"Geometric Mean" is the "n"th root of the product of "n" observations.

"Infiltration" means water other than wastewater that enters a sewer system (including sewer system and foundation drains) from the ground through such means as defective pipes, pipe joints, connections, or manholes. Infiltration does not include, and is distinguished from, inflow.

"Inflow" means water other than wastewater that enters a sewer system (including sewer service connections) from sources such as, but not limited to, roof leaders, cellar drains, yard drains, area drains, drains from springs and swampy areas, cross connections between storm sewers and sanitary sewers, catch basins, cooling towers, storm waters, surface runoff, street wash waters, or drainage. Inflow does not include, and is distinguished from, infiltration.

"Instantaneous Limit" means the highest allowable concentration of a substance as measured by a grab sample, or the highest allowable measurement of a parameter as obtained through instantaneous monitoring.

"In-stream Waste Concentration" or **"(IWC)"** means the concentration of a discharge in the receiving water after mixing has occurred in the allocated zone of influence.

"Maximum Daily Limit" means the maximum allowable "Daily Concentration" (defined above) when expressed as a concentration (e.g. mg/l), otherwise, it means the maximum allowable "Daily Quantity" as defined above, unless it is expressed as a flow quantity. If expressed as a flow quantity it means "Maximum Daily Flow" as defined in Section 22a-430-3(a) of the RCSA.

"Monthly Minimum Removal Efficiency" means the minimum reduction in the pollutant parameter specified when the effluent average monthly concentration for that parameter is compared to the influent average monthly concentration.

"NA" as a Monitoring Table abbreviation means "not applicable".

"NR" as a Monitoring Table abbreviation means "not required".

"No Observable Acute Effect Level" or **"(NOAEL)"** means any concentration equal to or less than the critical test concentration in a single concentration (pass/fail) toxicity test, conducted pursuant to Section 22a-430-3(j)(7)(A)(i) of the RCSA, demonstrating greater than 90% survival of test organisms at the CTC.

"Quarterly" in the context of any sampling frequency, shall mean sampling is required in the months of January, April, July, and October.

"Range During Sampling" or **"(RDS)"** as a sample type means the maximum and minimum of all values recorded as a result of analyzing each grab sample of; 1) a Composite Sample, or, 2) a Grab Sample Average. For those permittees with pH meters that provide continuous monitoring and recording, Range During Sampling means the maximum and minimum readings recorded with the continuous monitoring device during the Composite or Grab Sample Average sample

collection.

"Range During Month" or **"(RDM)"** as a sample type means the lowest and the highest values of all of the monitoring data for the reporting month.

"MGD" means million gallons per day.

"Sanitary Sewage" means wastewaters from residential, commercial and industrial sources introduced by direct connection to the sewerage collection system tributary to the treatment works including non-excessive inflow/infiltration sources.

"Semi-Annual" in the context of any sampling frequency, shall mean the sample must be collected in the months of January and July.

"Twice per Month" in the context of any sampling frequency, mean two samples per calendar month collected no less than 12 days apart.

"ug/l" means micrograms per liter

"Work Day" in the context of a sampling frequency means, Monday through Friday excluding holidays.

SECTION 3: COMMISSIONER'S DECISION

(A) The Commissioner of Environmental Protection ("Commissioner") has issued a final decision and found modification of the existing system or installation of a new system would protect the waters of the state from pollution. The Commissioner's decision is based on application #200500255 for permit modification received on February 9, 2005 and the administrative record established in the processing of that application.

(B) The Commissioner hereby authorizes the Permittee to discharge in accordance with the provisions of this permit, the above referenced application, and all approvals issued by the Commissioner or his authorized agent for the discharges and/or activities authorized by, or associated with, this permit.

(C) The Commissioner reserves the right to make appropriate revisions to the permit, if required after Public Notice, in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the Federal Clean Water Act or the CGS or regulations adopted thereunder, as amended. The permit as modified or renewed under this paragraph may also contain any other requirements of the Federal Clean Water Act or CGS or regulations adopted thereunder which are then applicable.

SECTION 4: GENERAL LIMITATIONS AND OTHER CONDITIONS

(A) The Permittee shall not accept any new sources of non-domestic wastewater conveyed to its POTW through its sanitary sewerage system or by any means other than its sanitary sewage system unless the generator of such wastewater; (a) is authorized by a permit issued by the Commissioner under Section 22a-430 CGS (individual permit), or, (b) is authorized under Section 22a-430b (general permit), or, (c) has been issued an emergency or temporary authorization by the Commissioner under Section 22a-6k. All such non-domestic wastewaters shall be processed by the POTW via receiving facilities at a location and in a manner prescribed by the permittee which are designed to contain and control any unplanned releases.

(B) No new discharge of domestic sewage from a single source to the POTW in excess of 12,250 gallons per day may be authorized by the permittee until the discharger has registered the discharge under the "General Permit for Domestic Sewage" reissued by the Commissioner on June 12, 2002 pursuant to Section 22a-430b of the CGS.

(C) The permittee shall maintain a system of user charges based on actual use sufficient to operate and maintain the POTW (including the collection system) and replace critical components.

(D) The permittee shall maintain a sewer use ordinance that is consistent with the Model Sewer Ordinance for Connecticut Municipalities prepared by the Department of Environmental Protection. The Commissioner of Environmental Protection alone may authorize certain discharges which may not conform to the Model Sewer Ordinance.

(E) No discharge shall contain or cause in the receiving stream, a visible oil sheen or floating solids; cause visible discoloration, or foaming in the receiving stream.

(F) No discharge shall cause acute or chronic toxicity in the receiving water body beyond any Zone Of Influence (ZOI) specifically allocated to that discharge in this permit.

(G) The permittee shall maintain an alternate power source adequate to provide full operation of all pump stations in the sewerage collection system and to provide a minimum of primary treatment and disinfection at the water pollution control facility to insure that no discharge of untreated wastewater will occur during a failure of a primary power source.

(H) The average monthly effluent concentration shall not exceed 15% of the average monthly influent concentration for BOD_5, and Total Suspended Solids, for all daily composite samples taken in any calendar month.

(I) Any new or increased amount of sanitary sewage discharge to the sewer system is prohibited where it will cause a dry weather overflow or exacerbate an existing dry weather overflow.

(J) Sludge Conditions

(1) The permittee shall comply with all existing federal and state laws and regulations that apply to sewage sludge use and disposal practices, including but not limited to 40 CFR Part 503.

(2) If an applicable management practice or numerical limitation for pollutants in sewage sludge more stringent than existing federal and state regulations is promulgated under Section 405(d) of the Clean Water Act (CWA), this permit shall be modified or revoked and reissued to conform to the promulgated regulations.

(3) The permittee shall give prior notice to the Commissioner of any change(s) planned in the permittees' sludge use or disposal practice. A change in the permittees' sludge use or disposal practice may be a cause for modification of the permit.

(K) The limits imposed on the discharges listed in this permit take effect on the issuance date of this permit, hence any sample taken after this date which, upon analysis, shows an exceedence of permit limits will be considered non-compliance.

(L) When the arithmetic mean of the average daily flow from the POTW for the previous 180 days exceeds 90% of the design flow rate, the permittee shall develop and submit for the review of the Commissioner within one year, a plan to accommodate future increases in flow to the plant. This plan shall include a schedule for completing any recommended improvements and a plan for financing the improvements.

(M) When the arithmetic mean of the average daily BOD_5, or TSS loading into the POTW for the previous 180 days exceeds 90% of the design load rate, the permittee shall develop and submit for the review of the Commissioner within one year, a plan to accommodate future increases in load to the plant. This plan shall include a schedule for completing any recommended improvements and a plan for financing the improvements.

(N) On or before July 31st of each calendar year the main flow meter shall be calibrated by an independent contractor in accordance with the manufacturers' specifications. The actual record of the calibration shall be retained onsite and, upon request, the permittee shall submit to the Commissioner a copy of that record.

(O) The permittee shall operate and maintain all processes as installed in accordance with the approved plans and specifications and as outlined in the associated operation and maintenance manual. This includes but is not limited to all recycle pumping systems, aeration equipment, aeration tank cycling, mixing equipment, anoxic basin, chemical feed systems, effluent filters or any other process equipment necessary for the optimal removal of pollutants. The permittee shall not bypass or fail to operate any of the approved equipment or processes without the written approval of the Commissioner.

(P) The temperature of any discharge shall not increase the temperature of the receiving stream above 85°F, or, in any case, raise the normal temperature of the receiving stream more than 4°F.

SECTION 5: SPECIFIC EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

(A) The discharge(s) shall not exceed and shall otherwise conform to the specific terms and conditions listed in this permit.

The discharge is restricted by, and shall be monitored in accordance with Tables A-1 through E incorporated in this permit as Attachment 1.

(B) The Permittee shall monitor the performance of the treatment process in accordance with the Monthly Operating Report (MOR) and the Nutrient Analysis Report (NAR) incorporated in this permit as Attachment 2, Tables A and B, respectively.

SECTION 6: SAMPLE COLLECTION, HANDLING and ANALYTICAL TECHNIQUES

(A) Chemical Analysis

(1) Chemical analyses to determine compliance with effluent limits and conditions established in this permit, shall be performed using the methods approved pursuant to the Code of Federal Regulations, Part 136 of title 40 (40 CFR 136) unless an alternative method has been approved in writing pursuant to 40 CFR 136.4 or as provided in Section 22a-430-3-(j)(7) of the RCSA. Chemicals which do not have methods of analysis defined in 40 CFR 136 or the RCSA shall be analyzed in accordance with methods specified in this permit.

(2) All metals analyses identified in this permit shall refer to analyses for Total Recoverable Metal, as defined in 40 CFR 136 unless otherwise specified.

(3) Grab samples shall be taken during the period of the day when the peak hourly flow is normally experienced.

(4) Samples collected for bacteriological examination shall be collected between the hours of 11 a.m. and 3 p.m. or at that time of day when the peak hourly flow is normally experienced.

(5) The Minimum Levels specified below represent the concentrations at which quantification must be achieved and verified during the chemical analyses for the parameters identified in Attachment 1, Table(s) A and B. Analyses for these parameters must include check standards within ten percent of the specified Minimum Level or calibration points equal to or less than the specified Minimum Level.

Parameter	Minimum Level
Arsenic, Total	0.005 mg/l
Beryllium, Total	0.001 mg/l
Cadmium, Total	0.0005 mg/l
Chromium (hex)	0.010 mg/l
Copper	0.005 mg/l
Lead	0.005 mg/l
Mercury, Total	0.0002 mg/l
Silver, Total	0.002 mg/l
Zinc, Total	0.020 mg/l

(6) The value of each parameter for which monitoring is required under this permit shall be reported to the maximum level of accuracy and precision possible consistent with the requirements of this Section of the permit.

(7) Effluent analyses for which quantification was verified during the analysis at or below the minimum levels specified in this Section and which indicate that a parameter was not detected shall be reported as "less than x" where 'x' is the numerical value equivalent to the analytical method detection limit for that analysis.

(8) Results of effluent analyses which indicate that a parameter was not present at a concentration greater than or equal to the Minimum Level specified for that analysis shall be considered equivalent to zero (0.0) for purposes of determining compliance with effluent limitations or conditions specified in this permit.

(B) Acute Aquatic Toxicity Test

(1) Samples for monitoring of Aquatic Toxicity shall be collected and handled as prescribed in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" (EPA-821-R-02-012).

(a) Composite samples shall be chilled as they are collected. Grab samples shall be chilled immediately

following collection. Samples shall be held at 0 - 6°C until Aquatic Toxicity testing is initiated.

(b) Samples shall be taken at the final effluent for Aquatic Toxicity unless otherwise approved in writing by the Commissioner for monitoring at this facility.

(c) Chemical analyses of the parameters identified in Attachment 1, Table B shall be conducted on an aliquot of the same sample tested for Aquatic Toxicity.

(i) At a minimum, pH, specific conductance, total alkalinity, total hardness, and total residual chlorine shall be measured in the effluent sample and, during Aquatic Toxicity tests, in the highest concentration of the test and in the dilution (control) water at the beginning of the test and at test termination. If total residual chlorine is not detected at test initiation, it does not need to be measured at test termination. Dissolved oxygen, pH, and temperature shall be measured in the control and all test concentrations at the beginning of the test, daily thereafter, and at test termination.

(d) Tests for Aquatic Toxicity shall be initiated within 36 hours of sample collection.

(2) Monitoring for Aquatic Toxicity to determine compliance with the permit condition on Aquatic Toxicity (invertebrate) shall be conducted for 48 hours utilizing neonatal (less than 24 hours old) *Daphnia pulex.*

(3) Monitoring for Aquatic Toxicity to determine compliance with the permit condition on Aquatic Toxicity (vertebrate) shall be conducted for 48 hours utilizing larval (1 to 14-day old with no more than 24 hours range in age) *Pimephales promelas.*

(4) Tests for Aquatic Toxicity shall be conducted as prescribed for static non-renewal acute tests in "Methods for measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms" (EPA/821-R-02-012), except as specified below.

(a) For Aquatic Toxicity limits, and for monitoring only conditions, expressed as a NOAEL value, Pass/Fail (single concentration) tests shall be conducted at a specified Critical Test Concentration (CTC) equal to the Aquatic Toxicity limit, (100% in the case of monitoring only conditions), as prescribed in Section 22a-430-3(j)(7)(A)(i) of the RCSA.

(b) Organisms shall not be fed during the tests.

(c) Synthetic freshwater prepared with deionized water adjusted to a hardness of 50±5 mg/L as $CaCO_3$ shall be used as dilution water in the tests.

(d) Copper nitrate shall be used as the reference toxicant.

(5) For monitoring only conditions, toxicity shall be demonstrated when the results of a valid pass/fail Aquatic Toxicity Test indicates less than 90% survival in the effluent at the CTC (100%).

(C) Chronic Aquatic Toxicity Test

(1) Chronic toxicity testing of the discharge shall be conducted annually during July, August, or September of each year.

(2) Chronic toxicity testing shall be performed on the discharge in accordance with the test methodology established in "Short-Term Methods for Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms" (EPA-821-R-02-013) as referenced in 40 CFR 136 for *Ceriodaphnia* survival and reproduction and Fathead minnow larval survival and growth.

(a) Chronic toxicity tests shall utilize a minimum of five effluent dilutions prepared using a dilution factor of 0.5 (100% effluent, 50% effluent, 25% effluent, 12.5% effluent, 6.25% effluent).

(b) Norwalk River water collected immediately upstream of the area influenced by the discharge shall be used as control (0% effluent) and dilution water in the toxicity tests.

(c) A laboratory water control consisting of synthetic freshwater prepared in accordance with EPA-821-R-02-013 at a hardness of 50±5 mg/l shall be used as an additional control (0% effluent) in the toxicity tests.

(d) Daily composite samples of the discharge (final effluent following disinfection) and grab samples of the Norwalk River for use as site water control and dilution water shall be collected on **(i)** day 0 for test solution renewal on day 1 and day 2 of the test; **(ii)** day 2, for test solution renewal on day 3 and day 4 of the test; **(iii)** and day 4, for test solution renewal for the remainder of the test. Samples shall not be pH or hardness adjusted, or chemically altered in any way.

(3) All samples of the discharge and Norwalk River water used in the chronic toxicity test shall, at a minimum, be analyzed and results reported in accordance with the provisions listed in Section 6(A) of this permit for the following parameters:

pH
Hardness
Alkalinity
Conductivity
Nitrogen, ammonia (total as N)
Solids, Total Suspended
Copper (total recoverable and dissolved)
Zinc (total recoverable and dissolved)

SECTION 7: RECORDING AND REPORTING REQUIREMENTS

(A) The results of chemical analyses and any aquatic toxicity test required above in Section 5 and the referenced Attachment 1 shall be entered on the Discharge Monitoring Report (DMR) and reported to the Bureau of Water Management. The report shall also include a detailed explanation of any violations of the limitations specified. The DMR must be received at the following address by the 15th day of the month following the month in which samples are collected.

ATTN: Municipal Wastewater Monitoring Coordinator
Connecticut Department of Environmental Protection
Bureau of Water Management, Planning and Standards Division
79 Elm Street
Hartford, Connecticut 06106-5127

(1) For composite samples, from other than automatic samplers, the instantaneous flow and the time of each aliquot sample collection shall be recorded and maintained at the POTW.

(B) Complete and accurate test data, including percent survival of test organisms in each replicate test chamber, LC_{50} values and 95% confidence intervals for definitive test protocols, and all supporting chemical/physical measurements performed in association with any aquatic toxicity test, shall be entered on the Aquatic Toxicity Monitoring Report form (ATMR) and sent to the Bureau of Water Management at the address specified above in Section 7 (A) of this permit by the 15th day of the month following the month in which samples are collected.

(C) The results of the process monitoring required above in Section 5 shall be entered on the Monthly Operating Report (MOR) and Nutrient Analysis Report (NAR) forms, included herein as Attachment 2, Tables A and B, respectively, and reported to the Bureau of Water Management. The MOR report shall also be accompanied by a detailed explanation of any violations of the limitations specified. The MOR and NAR must be received at the address specified above in Section 7 (A) of this permit by the 15th day of the month following the month in which the data and samples are collected.

(D) A complete and thorough report of the results of the chronic toxicity monitoring outlined in Section 6(C) shall be prepared as outlined in Section 10 of EPA-821-R-02-013 and submitted to the Department for review on or before December 31st of each calendar year to the address specified above in Section 7 (A) of this permit.

SECTION 8: RECORDING AND REPORTING OF VIOLATIONS, ADDITIONAL TESTING REQUIREMENTS, BYPASSES, MECHANICAL FAILURES, AND MONITORING EQUIPMENT FAILURES

(A) If any acute toxicity sample analysis indicates toxicity, or that the test was invalid, a second sample of the effluent shall be collected and tested for Acute Aquatic Toxicity and associated chemical parameters, as described above in Section 5 and Section 6, and the results reported to the Bureau of Water Management (Attn: Aquatic Toxicity) via the ATMR form (see

Section 7 (B)) within 30 days of the previous test. These test results shall also be reported on the next month's DMR report pursuant to Section 7 (A). The results of all toxicity tests and associated chemical parameters, valid and invalid, shall be reported.

(B) If any two consecutive test results or any three test results in a twelve month period indicates toxicity, the permittee shall immediately take all reasonable steps to eliminate toxicity wherever possible and shall submit a report, to the Bureau of Water Management (Attn: Aquatic Toxicity), for the review and written approval of the Commissioner in accordance with Section 22a-430-3(j)(10)(c) of the RCSA describing proposed steps to eliminate the toxic impact of the discharge on the receiving water body. Such a report shall include a proposed time schedule to accomplish toxicity reduction and the permittee shall comply with any schedule approved by the Commissioner.

(C) Section 22a-430-3(k) of the RCSA shall apply in all instances of bypass including a bypass of the treatment plant or a component of the sewage collection system planned during required maintenance. The Department of Environmental Protection, Bureau of Water Management, Planning and Standards Division (860) 424-3704, the Department of Public Health, Water Supply Section (860) 509-7333 and Recreation Section (860) 509-7297, and the local Director of Health shall be notified within 2 hours of learning of the event by telephone during normal business hours. If the discharge or bypass occurs outside normal working hours (8:30 a.m. to 4:30 p.m. Monday through Friday), notification shall be made within 2 hours of learning of the event to the Emergency Response Unit at (860) 424-3338 and the Department of Public Health at (860) 509-8000. A written report shall be submitted to the Department of Environmental Protection, Bureau of Water Management, Planning and Standards Division, Municipal Facilities Section within five days of each occurrence, or potential occurrence, of a discharge or bypass of untreated or partially treated sewage.

The written report shall contain:

(a) The nature and cause of the bypass, permit violation, treatment component failure, and/or equipment failure,

(b) the time the incident occurred and the anticipated time which it is expected to continue or, if the condition has been corrected, the duration,

(c) the estimated volume of the bypass or discharge of partially treated or raw sewage,

(d) the steps being taken to reduce or minimize the effect on the receiving waters, and

(e) the steps that will be taken to prevent reoccurrence of the condition in the future.

(E) Section 22a-430-3(j) of the RCSA shall apply in all instances of monitoring equipment failures. In the event of any failure of the monitoring equipment including, but not limited to, loss of refrigeration or loss of flow proportion sampling ability, the permittee shall notify in the same manner as in paragraph C of this Section, the Department of Environmental Protection, Bureau of Water Management, Planning and Standards Division except, if the failure occurs outside normal working hours (8:30 a.m. to 4:30 p.m. Monday through Friday) the permittee may wait to make the verbal report until 10:30 am of the next business day.

(F) In addition to the reporting requirements contained in Section 22a-430-3(i), (j), and (k) of the Regulations of Connecticut State Agencies, the permittee shall notify in the same manner as in paragraph C of this Section, the Department of Environmental Protection, Bureau of Water Management, Planning and Standards Division, Municipal Facilities Section (860) 424-3704 concerning the failure of any major component of the treatment facilities which the permittee may have reason to believe would result in an effluent violation. If the failure occurs outside normal working hours (8:30 a.m. to 4:30 p.m. Monday through Friday), notification shall be made within 2 hours of learning of the event to the Emergency Response Unit at (860) 424-3338 and the Department of Public Health at (860) 509-8000.

This permit is hereby issued on 11/30/05

Gina McCarthy
Commissioner

ATTACHMENT 1

Tables A-1 through E

TABLE A-1

Discharge Serial Number (DSN): **001-1**	Monitoring Location: **1**
Wastewater Description: **Sanitary Sewage**	
Monitoring Location Description: **Final Effluent**	
Allocated Zone of Influence (ZOI): **0.70 cfs**	In stream Waste Concentration (IWC): **14.2 %** Prior to the completion of the facility upgrade and expansion.

PARAMETER	Units	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			REPORT FORM	Minimum Level Analysis See Section 6
		Average Monthly Limit	Maximum Daily Limit	Sample Freq.	Sample Type	Instantaneous Limit or Required Range	Sample Freq.	Sample Type		
Alkalinity	mg/l	NA	NA	NR	NA	------	Monthly	Grab	MOR	
Biochemical Oxygen Demand (5 day)	mg/l	20mg/l and 15% of Influent [1]	40 mg/l	Weekly	Daily Composite	NA	NR	NA	DMR/MOR	
Fecal Coliform (May 1st through September 30th)	per100 ml	NA	NA	NR	NA	see remarks (A) and (B) below	Weekly	Grab	DMR/MOR	
Flow, Average Daily	MGD	0.075	------	Continuous[2]	Daily flow	NA	NR	NA	DMR/MOR	
Nitrogen, Ammonia	mg/l	------	------	Weekly	Daily Composite	NA	NR	NA	NAR	
Nitrogen, Nitrate (total as N)	mg/l	------	------	Weekly	Daily Composite	NA	NR	NA	NAR	
Nitrogen, Nitrite (total as N)	mg/l	------	------	Weekly	Daily Composite	NA	NR	NA	NAR	
Nitrogen, Total Kjeldahl	mg/l	------	------	Weekly	Daily Composite	NA	NR	NA	NAR	
Nitrogen, Total	mg/l	------	------	Weekly	Daily Composite	NA	NR	NA	NAR	
Nitrogen, Total (12 month rolling average limit) [3]	lbs/day	3.75lbs/day	NA	Weekly	Daily Composite	NA	NR	NA	DMR/MOR	
Oxygen, Dissolved	mg/l	NA	NA	NR	NA	------	Weekly	Grab	MOR	
pH	S.U.	NA	NA	NR	NA	6 - 9	Weekly	Grab	DMR/MOR	
Phosphorus, Total	mg/l	NA	------	Monthly	Daily Composite	NA	NR	NA	NAR	
Solids, Settleable	ml/l	NA	NA	NA	NA	------	Weekly	Grab	MOR	
Solids, Total Suspended	mg/l	20mg/l and 15% of Influent [1]	40mg/l	Weekly	Daily Composite	NA	NA	NA	DMR/MOR	
Temperature	°F	NA	NA	NR	NA	------	Workday	Grab	MOR	
Turbidity	NTU	NA	NA	NA	NA	------	Weekly	Grab	MOR	

UV Disinfection Dose (May 1st through September 30th)	$mW,s/cm^2$	NA	NA	NA	NA	------	2/workday	Grab	MOR	
Zinc, Total	kg/d	0.0589	0.127	Monthly	Daily Composite	NA	NA	NA	DMR/MOR	*

TABLE A-1 – REMARKS

Footnotes:

[1] The discharge shall meet 20 mg/l and 15% of the average monthly influent BOD5 and suspended solids (Table D, Monitoring Location G)

[2] The permittee shall record and report on the monthly operating report the minimum, maximum and total flow for each day of discharge and the average daily flow for each sampling month. The permittee shall report, on the discharge monitoring report, the average daily flow for each sampling month.

[3] The twelve month rolling average is defined as the average of the current months' weekly samples in pounds per day (the current monthly average) averaged with the averages from the previous eleven months.

Remarks:

(A) The geometric mean of the fecal Coliform bacteria values for the effluent samples collected in a period of thirty (30) consecutive days during the period from May 1st through September 30th shall not exceed 200 per 100 milliliters.

(B) The geometric mean of the fecal Coliform bacteria values for the effluent samples collected in a period of seven (7) consecutive days during the period from May 1st through September 30th shall not exceed 400 per 100 milliliters.

(C) The Average Weekly discharge Limitation for BOD5 and Total Suspended Solids shall be 1.5 times the Average Monthly Limit listed above.

TABLE A-2

Discharge Serial Number (DSN): **001-1**	Monitoring Location: **1**
Wastewater Description: **Sanitary Sewage**	
Monitoring Location Description: **Final Effluent**	
Allocated Zone of Influence (ZOI): **0.70 cfs**	In-stream Waste Concentration (IWC): **35.1%** After the completion of the facility upgrade and expansion.

PARAMETER	Units	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING			REPORT FORM	Minimum Level Analysis See Section 6
		Average Monthly Limit	Maximum Daily Limit	Sample Freq.	Sample type	Instantaneous Limit or Required Range[3]	Sample Freq.	Sample Type		
Alkalinity	mg/l	NA	NA	NR	NA	------	Monthly	Grab	MOR	
Biochemical Oxygen Demand (5 day)	mg/l	10 mg/l and 10% of Influent [1]	15	Weekly	Daily Composite	NA	NR	NA	DMR/MOR	
Fecal Coliform April 1st through October 31st	per100 ml	NA	NA	NR	NA	see remarks (A) and (B) below	Weekly	Grab	DMR/MOR	
Copper, Total	Kg/d	0.026	0.068	Monthly	Daily Composite	NA	NA	NA	DMR/MOR	*
Flow, Average Daily	MGD	0.245	------	Continuous[2]	Daily flow	NA	NR	NA	DMR/MOR	
Nitrogen, Ammonia (May 1st through September 30th)	mg/l	2.0	------	Weekly	Daily Composite	NA	NR	NA	DMR/MOR	
Nitrogen, Nitrate (total as N)	mg/l	------	------	Weekly	Daily Composite	NA	NR	NA	NAR	
Nitrogen, Nitrite (total as N)	mg/l	------	------	Weekly	Daily Composite	NA	NR	NA	NAR	
Nitrogen, Total Kjeldahl	mg/l	------	------	Weekly	Daily Composite	NA	NR	NA	NAR	
Nitrogen, Total	mg/l	------	------	Weekly	Daily Composite	NA	NR	NA	NAR	
Nitrogen, Total (12 month rolling average) [4]	lbs/day	8.2	------	Weekly	Daily Composite	NA	NR	NA	DMR/MOR	
Oxygen, Dissolved	mg/l	NA	NA	NR	NA	-------	Work Day	Grab	MOR	
pH	S.U.	NA	NA	NR	NA	6 - 9	Work Day	Grab	DMR/MOR	
Phosphate, Ortho	mg/l	------	------	Weekly	Daily Composite	NA	NR	NA	NAR	
Phosphorus, Total	mg/l	------	------	Weekly	Daily Composite	NA	NR	NA	NAR	
Silver, Total	Kg/d	------	------	Monthly	Daily Composite	NA	NA	NA	DMR/MOR	*

Solids, Settleable	ml/l	NA	NA	NA	NA	------	Weekly	Grab	MOR	
Solids, Total Suspended	mg/l	10 mg/l and 15% of Influent [1]	15	Weekly	Daily Composite	NA	NA	NA	DMR/MOR	
Temperature	°F	NA	NA	NR	NA	------	Work Day	Grab	MOR	
Turbidity	NTU	NA	NA	NA	NA	------	Work Day	Grab	MOR	
UV Dose April 1st through October 31st	$mW,s/cm^2$	NA	NA	NA	NA	≥ 30,000	4/Work Day	Grab	DMR/MOR	
Zinc, Total	kg/d	0.072	0.144	Monthly	Daily Composite	NA	NA	NA	DMR/MOR	

TABLE A-2 – CONDITIONS

Footnotes:

[1] The discharge shall meet 10 mg/l and 15% of the average monthly influent BOD_5 and suspended solids (Table D, Monitoring Location G).

[2] The permittee shall record and report on the monthly operating report the minimum, maximum and total flow for each day of discharge and the average daily flow for each sampling month . The permittee shall report, on the discharge monitoring report, the average daily flow for each sampling month.

[3] The instantaneous limits in this column are maximum limits except for UV Dose which is a minimum limit.

[4] The twelve month rolling average limit is defined as the average of the current months' weekly samples in pounds per day (the current monthly average) averaged with the averages from the previous eleven months.

Remarks:

(A) The geometric mean of the fecal coliform bacteria values for the effluent samples collected in a period of thirty (30) consecutive days during the period from April 1st through October 31st shall not exceed 200 per 100 milliliters.

(B) The geometric mean of the fecal coliform bacteria values for the effluent samples collected in a period of seven (7) consecutive days during the period from April 1st through October 31st shall not exceed 400 per 100 milliliters.

TABLE B-1

Discharge Serial Number (DSN): **001-1**			Monitoring Location: **T**			
Wastewater Description: **Sanitary Sewage**						
Monitoring Location Description: **Final effluent after disinfection**						
Allocated Zone of Influence (ZOI): 0.70cfs			In-stream Waste Concentration (IWC): 14.2% Prior to the completion of the facility expansion and upgrade.			
PARAMETER	**Units**	**Maximum Daily Limit**	**Sampling Frequency**	**Sample Type**	**Reporting form**	**Minimum Level Analysis See Section 6**
Antimony, Total	mg/l	------	Semi-Annual	Daily Composite	ATMR	
Aquatic Toxicity, *Daphnia pulex* [1]	%	------	Semi-Annual	Daily Composite	ATMR/DMR	
Aquatic Toxicity, *Pimephales promelas* [1]	%	------	Semi-Annual	Daily Composite	ATMR/DMR	
Arsenic, Total	mg/l	------	Semi-Annual	Daily Composite	ATMR	*
Beryllium, Total	mg/l	------	Semi-Annual	Daily Composite	ATMR	*
BOD5	mg/l	------	Semi-Annual	Daily Composite	ATMR	
Cadmium, Total	mg/l	------	Semi-Annual	Daily Composite	ATMR	*
Chromium, Hexavalent	mg/l	------	Semi-Annual	Daily Composite	ATMR	
Chromium, Total	mg/l	------	Semi-Annual	Daily Composite	ATMR	*
Chlorine, Total Residual	mg/l	------	Semi-Annual	Daily Composite	ATMR	
Copper, Total	mg/l	------	Semi-Annual	Daily Composite	ATMR	*
Cyanide, Amenable	mg/l	------	Semi-Annual	Daily Composite	ATMR	
Cyanide, Total	mg/l	------	Semi-Annual	Daily Composite	ATMR	
Lead, Total	mg/l	------	Semi-Annual	Daily Composite	ATMR	*
Mercury, Total	mg/l	------	Semi-Annual	Daily Composite	ATMR	*
Nickel, Total	mg/l	------	Semi-Annual	Daily Composite	ATMR	
Nitrogen, Ammonia (total as N)	mg/l	------	Semi-Annual	Daily Composite	ATMR	
Nitrogen, Nitrate, (total as N)	mg/l	------	Semi-Annual	Daily Composite	ATMR	
Nitrogen, Nitrite, (total as N)	mg/l	------	Semi-Annual	Daily Composite	ATMR	
Phenols, Total	mg/l	------	Semi-Annual	Daily Composite	ATMR	
Selenium, Total	mg/l	------	Semi-Annual	Daily Composite	ATMR	
Silver, Total	mg/l	------	Semi-Annual	Daily Composite	ATMR	*
Suspended Solids, Total	mg/l	------	Semi-Annual	Daily Composite	ATMR	
Thallium, Total	mg/l	------	Semi-Annual	Daily Composite	ATMR	
Zinc, Total	mg/l	------	Semi-Annual	Daily Composite	ATMR	*

TABLE B - CONDITIONS

Remarks: [1]The results of the Toxicity Tests are recorded in % survival, however, the permittee shall report pass/fail on the DMR based on criteria in Section 6(B) of this permit.

TABLE B-2

Discharge Serial Number (DSN): **001-1**			Monitoring Location: **T**			
Wastewater Description: **Sanitary Sewage**						
Monitoring Location Description: **Final effluent after disinfection**						
Allocated Zone of Influence (ZOI): 0.70cfs			In-stream Waste Concentration (IWC): 35.1% After the completion of the facility expansion and upgrade.			
PARAMETER	**Units**	**Maximum Daily Limit**	**Sampling Frequency**	**Sample Type**	**Reporting form**	**Minimum Level Analysis See Section 6**
Antimony, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	
Aquatic Toxicity, *Daphnia pulex* [1]	%	-----	Quarterly	Daily Composite	ATMR/DMR	
Aquatic Toxicity, *Pimephales promelas* [1]	%	-----	Quarterly	Daily Composite	ATMR/DMR	
Arsenic, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	*
Beryllium, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	*
BOD5	mg/l	-----	Quarterly	Daily Composite	ATMR	
Cadmium, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	*
Chromium, Hexavalent	mg/l	-----	Quarterly	Daily Composite	ATMR	
Chromium, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	*
Chlorine, Total Residual	mg/l	-----	Quarterly	Daily Composite	ATMR	
Copper, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	*
Cyanide, Amenable	mg/l	-----	Quarterly	Daily Composite	ATMR	
Cyanide, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	
Lead, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	*
Mercury, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	*
Nickel, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	
Nitrogen, Ammonia (total as N)	mg/l	-----	Quarterly	Daily Composite	ATMR	
Nitrogen, Nitrate, (total as N)	mg/l	-----	Quarterly	Daily Composite	ATMR	
Nitrogen, Nitrite, (total as N)	mg/l	-----	Quarterly	Daily Composite	ATMR	
Phenols, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	
Selenium, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	
Silver, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	*
Suspended Solids, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	
Thallium, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	
Zinc, Total	mg/l	-----	Quarterly	Daily Composite	ATMR	*

TABLE B - CONDITIONS

Remarks: [1]The results of the Toxicity Tests are recorded in % survival, however, the permittee shall report pass/fail on the DMR based on criteria in Section 6(B) of this permit.

TABLE C

Discharge Serial Number: **001-1**	Monitoring Location: N			
Wastewater Description: **Activated Sludge**				
Monitoring Location Description: **Each Aeration Unit**				
PARAMETER	**REPORTING FORMAT**	**INSTANTANEOUS MONITORING**		**REPORTING FORM**
		Sample Frequency	Sample Type	
Oxygen, Dissolved	High & low for each WorkDay	4/WorkDay	Grab	MOR
Sludge Volume Index	Weekly	Weekly	Grab	MOR
Mixed Liquor Suspended Solids	Weekly	Weekly	Grab	MOR

TABLE D

Discharge Serial Number: **001-1**			Monitoring Location: **G**				
Wastewater Description: **Sanitary Sewage**							
Monitoring Location Description: **Influent**							
PARAMETER	**Units**	**DMR REPORTING FORMAT**	**FLOW/TIME BASED MONITORING**		**INSTANTANEOUS MONITORING**		**REPORTING FORM**
			Sample Frequency	**Sample Type**	**Sample Frequency**	**Sample Type**	
Alkalinity, Total	mg/l		NA	NA	Monthly	Grab	MOR
Biochemical Oxygen Demand (5 day)	mg/l	Monthly average	Weekly	Daily Composite	NA	NA	DMR/MOR
Nitrogen, Ammonia (total as N)	mg/l		Monthly	Daily Composite	NA	NA	NAR
Nitrogen, Nitrate (total as N)	mg/l		Monthly	Daily Composite	NA	NA	NAR
Nitrogen, Nitrite (total as N)	mg/l		Monthly	Daily Composite	NA	NA	NAR
Nitrogen, Total Kjeldahl	mg/l		Monthly	Daily Composite	NA	NA	NAR
Nitrogen, Total	mg/l		Monthly	Daily Composite	NA	NA	MOR/NAR
Phosphorus, Total	mg/l		Monthly	Daily Composite	NA	NA	MOR
PH	S.U.		NA	NA	Work Day	Grab	MOR
Solids, Total Suspended	mg/l	Monthly average	Weekly	Daily Composite	NA	NA	DMR/MOR
Temperature	°F		NA	NA	Work Day	Grab	MOR

TABLE E

Discharge Serial Number: **001-1**	Monitoring Location: **S**		
Wastewater Description: **Waste Sludge**			
Monitoring Location Description: **Waste Sludge**			
PARAMETER	**INSTANTANEOUS MONITORING**		**REPORTING FORM**
	Units	**Grab Sample Freq.**	
Arsenic, Total	mg/kg	Annual	DMR
Beryllium, Total	mg/kg	Annual	DMR
Cadmium, Total	mg/kg	Annual	DMR
Chromium, Total	mg/kg	Annual	DMR
Copper, Total	mg/kg	Annual	DMR
Lead, Total	mg/kg	Annual	DMR
Mercury, Total	mg/kg	Annual	DMR
Nickel, Total	mg/kg	Annual	DMR
Nitrogen, Ammonia *	mg/kg	Annual	DMR*
Nitrogen, Nitrate (total as N) *	mg/kg	Annual	DMR*
Nitrogen, Organic *	mg/kg	Annual	DMR*
Nitrogen, Nitrite (total as N) *	mg/kg	Annual	DMR*
Nitrogen, Total *	mg/kg	Annual	DMR*
pH *	S.U.	Annual	DMR*
Polychlorinated Biphenyls	mg/kg	Annual	DMR
Solids, Fixed	%	Annual	DMR
Solids, Total	%	Annual	DMR
Solids, Volatile	%	Annual	DMR
Zinc, Total	mg/kg	Annual	DMR
(*) required for composting or land application only			

ATTACHMENT 2

MONTHLY OPERATING REPORT FORM
AND
NUTRIENT ANALYSIS REPORT

Redding Permit expiration date: Facility ID: Chief Plant Operator: MOR:

Sample month/year: Permit Number: CT0101770

	Daily Flow			SBR				Internal recycle	BOD (5-day)			Suspended Solids			Settleable Solids	Turbidity	UV Dose		UV Intensity	Fecal Coliform	Ammonia	Total N	Total N	Lowest D.O.
						high	low		Inf.	Prim. Eff.	Final Eff.	Inf.	Prim. Eff.	Final Eff.									
	Max.	Min.	Total	MLSS	SVI	D.O.	D.O.								Eff.	Eff.	High	Low			Effluent	Eff.	Eff.	Eff.
Units	mgd					mg/l		%	mg/l			mg/l			ml/l	NTU	mW,sec/cm2		%	#/100 ml	mg/l	mg/l	mg/l	mg/l
Freq	daily			4/work day				work day	Daily			Daily			work day	work day	4/work day		workday	daily	monthly	monthly	12 mon. roll. ave.	4 per workday
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31																								
Total																								
Ave																								

pH		Total P	OrthoP	Temp.		Zinc	Copper	Alkalinity	
Inf.	Eff.	Eff.	Eff.	Inf.	Eff.	Eff.	Eff.	Inf.	Eff.
S.U.		mg/l	mg/l	°F		mg/l	mg/l	mg/l	
work day		monthly	monthly	work day		weekly	weekly	monthly	

Sludge Disposal Location:

Please return forms to:
DEP - Water Management
ATTN: Municipal Wastewater Monitoring Coordinator
Municipal Facilities
79 Elm Street
Hartford, CT 06106-5127

Statement of Acknowledgement

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

Authorized Official:

Title:

Signature: ____________________

Date: __________

TABLE B

Nutrient Analysis Report

for compliance with NPDES permit

Town of Redding Permit # CT0101770 Flow Rate _____ mgd Sampling Date __/__/__

Parameter	Raw Influent		Primary Effluent		Final Effluent		Plant Efficiency
	mg/l	Lbs/day	mg/l	lbs/day	mg/l	lbs/day	%
Ammonia							
Nitrite							
Nitrate							
TKN							
Total Nitrogen = TKN + nitrite + nitrate							
Orthophosphates							
Total Phosphorus							

Notes: lbs/day = 8.34 x flow (mgd) x mg/l of pollutant
Flow = Total daily flow on sampling date (mgd)
Plant Efficiency = 100% x (raw influent – final effluent) / raw influent

DATA TRACKING AND TECHNICAL FACT SHEET

Permittee: Town of Redding **PAMS Company ID**: 17982

PERMIT, ADDRESS, AND FACILITY DATA

PERMIT #:CT0101770 **APPLICATION #:** 200500255 **FACILITY ID.** 117-001

Mailing Address:	Location Address:
Street: Town Hall, 100 Hill Road	Street: 19 North Main St
City: Redding ST: CT Zip: 06875	City: Redding ST: CT Zip:06896
Contact Name: George Konow	Contact Name: George Konow
Phone No.: 203-544-8674	Phone No.: 203-544-8674

PERMIT INFORMATION

DURATION 5 YEAR _X_ 10 YEAR __ 30 YEAR

TYPE New _ Reissuance __ Modification X

CATEGORIZATION POINT (X) NON-POINT ( ) GIS # 4950

NPDES (X) PRETREAT () GROUND WATER(UIC) ( ) GROUND WATER (OTHER) ( )

NPDES MAJOR(MA) ___
NPDES SIGNIFICANT MINOR or PRETREAT SIU (SI)
NPDES or PRETREATMENT MINOR (MI) _X

COMPLIANCE SCHEDULE YES__ NO X
POLLUTION PREVENTION __ TREATMENT REQUIREMENT__
WATER QUALITY REQUIREMENT __ OTHER

OWNERSHIP CODE
Private __ Federal __ State __ Municipal (town only) _X_ Other public

DEP STAFF ENGINEER Iliana Ayala

PERMIT FEES

Discharge Code	DSN Number	Annual Fee
111000b	001	1,597.50

FOR NPDES DISCHARGES
Drainage Basin Code:7300 Present/Future Water Quality Standard: B/B

NATURE OF BUSINESS GENERATING DISCHARGE
Municipal Sewage Treatment Facility

PROCESS AND TREATMENT DESCRIPTION (by DSN)
Presently - Biological treatment using SBR, effluent equalization, filtration, and disinfection by UV
After expansion and upgrade - Biological treatment with a membrane bioreactor with UV disinfection.

RESOURCES USED TO DRAFT PERMIT

_X_ *Federal Effluent Limitation Guideline 40CFR 133*
Secondary Treatment Category

__ *Performance Standards*

__ *Federal Development Document*
name of category

__ *Department File Information*

_X_ *Connecticut Water Quality Standards*

__ *Anti-degradation Policy*

__ *Coastal Management Consistency Review Form*

_X_ *Other - Explain*

BASIS FOR LIMITATIONS, STANDARDS OR CONDITIONS

_X_ *Secondary Treatment*

__ *Case by Case Determination (See Other Comments)*

__ *Section 22a-430-4(r) of the Regulations of Connecticut State Agencies*

_X_ *In order to meet in-stream water quality (See General Comments)*

_X_ *Anti-degradation policy*

GENERAL COMMENTS FOR EXISTING FACILITIES
The need for inclusion of water quality based discharge limitations in this permit was evaluated consistent with Connecticut Water Quality Standards and criteria, pursuant to 40 CFR 122.44(d). Each parameter was evaluated for consistency with the available aquatic life criteria (acute and chronic) and human health (fish consumption only) criteria, considering the zone of influence allocated to the facility where appropriate. The statistical procedures outlined in the EPA Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001) were employed to calculate the need for such limits. Comparison of monitoring data and its inherent variability with the calculated water quality based limits indicates a statistical probability of exceeding such limits. Therefore, water quality based limits for zinc and copper were included in the permit at this time.

GENERAL COMMENTS FOR EXPANDED FLOWS
The previous permit and current treatment plant is permitted for 75,000 gpd. Construction of the expanded plant is expected to start by the fall of 2005 and be operational by the fall of 2006. Upon completion of the expanded

treatment plant, the new permitted flow will be increased from 75,000 to 245,000 gpd. The current facility is providing secondary level treatment and the new facility will provide advanced level treatment.

Comparison of monitoring data with the proposed flow and its inherent variability with the calculated water quality based limits indicates a statistical probability of exceeding such limits. Water quality based limits for zinc and copper were included in the permit at this time.

The zinc limits are based on a Zone of Influence allocation of 0.525 cfs, approximately 75% of the 7-day, 10-year low streamflow used to evaluate the need for limits on other pollutant parameters. This was done to reserve capacity to assimilate known elevated levels of zinc in groundwaters near the outfall location. Effluent limits for zinc may be modified in future permits based on the results of on-going efforts to remediate groundwater contamination.

A monitoring requirement for silver is incorporated in the permit. Since 2000, two monitoring results for silver exceeded the ML of 0.002 mg/L. Additional monitoring for silver is included in this permit to evaluate the reasonable potential for silver to cause excursions above adopted water quality criteria for the Norwalk River.

Limits for BOD and TSS were set at 10 mg/average monthly limit and 15mg/l maximum daily limit which reflect best available treatment technology. Limits more stringent than secondary treatment were required due to water quality concerns in the Norwalk River. A mathematical modeling analysis was used to evaluate the potential water quality impacts on dissolved oxygen and eutrophication. Total nitrogen was limited to a concentration of 4 mg/l, expressed as a mass based limit of 8.2 pounds per day. This reflects best available treatment technology for nitrogen removal. Nitrogen removal is required in order to minimize eutrophic impacts on Norwalk Harbor and Long Island Sound.

The disinfection period in the draft permit has been extended due documented recreational uses of the river. The disinfection period requirement's from April 1st through October 30th, instead of May 1st through September 30th The fecal colifotm test period has also been extended to reflect the disinfection period.

The discharge was evaluated in terms of compliance with the anti-degradation policy contained in Connecticut's Water Quality Standards. This anti-degradation policy requires the maintenance and protection of water quality in high quality waters. Given the stringent effluent limitations in this permit, the Department finds that the discharge would not result in a significant lowering of water quality in the Norwalk River, and that existing and designated uses will be protected fully.

WQB LIMITS: Georgetown WPCF

Discharger:	Georgetown WPCF			by: rdenny, 4/8/2005, 14:57	
Receiving Water:	Norwalk River		CURRENT CONDITIONS		
Design Flow:	0.245	MGD	Avg. Flow:	0.027	MGD
Allocated ZOI:	0.70	CFS	Max. Flow:	0.040	MGD
Samples/Month:	4		IWC:	35.14	%

WQB Limits - **Site Specific**

Compound	C.V.	AML ug/l	MDL ug/l	AML kg/d	MDL kg/d	LIMIT? ML?
Ammonia	1.7	2.46E+03	7.33E+03	2.29E+00	6.80E+00	
Antimony	0.5	3.85E+03	7.11E+03	3.57E+00	6.59E+00	
Arsenic	0.4	2.10E-02	3.52E-02	1.95E-05	3.26E-05	ML
Beryllium	0.3	3.70E-01	5.55E-01	3.43E-04	5.15E-04	ML
Cadmium	0.8	2.51E+00	5.75E+00	2.33E-03	5.34E-03	ML
Chlorine	0.6	2.56E+01	5.14E+01	2.38E-02	4.77E-02	
Chromium (hex)	0.9	1.89E+01	4.55E+01	1.75E-02	4.23E-02	ML
Chromium (tri)	0.7	9.49E+01	2.04E+02	8.80E-02	1.90E-01	
Copper	1.1	2.80E+01	7.32E+01	2.60E-02	6.79E-02	LIMIT/ML
Cyanide (amen)	0.0	1.48E+01	1.48E+01	1.37E-02	1.37E-02	
Lead	0.6	2.80E+00	5.61E+00	2.60E-03	5.21E-03	ML
Mercury	0.7	1.45E-01	3.13E-01	1.35E-04	2.90E-04	ML
Nickel	2.5	4.25E+01	1.35E+02	3.94E-02	1.26E-01	
Phenol	0.7	5.78E+03	1.25E+04	5.37E+00	1.16E+01	
Selenium	0.4	1.24E+01	2.08E+01	1.15E-02	1.93E-02	
Silver	0.8	1.27E+00	2.90E+00	1.18E-03	2.69E-03	LIMIT/ML
Thallium	0.8	1.79E+01	4.11E+01	1.66E-02	3.81E-02	
Zinc	0.6	9.22E+01	2.85E+02	8.56E-02	1.72E-01	LIMIT/ML

Current Conditions

Compound	# DETECTS	AMC ug/l	MMC ug/l	AMM kg/d	MMM kg/d
Ammonia	9	1.33E+01	4.80E+01		
Antimony	0	5.50E+00	1.00E+01	5.63E-04	1.52E-03
Arsenic	0	5.80E+00	1.00E+01	5.93E-04	1.52E-03
Beryllium	0	8.00E-01	1.00E+00	8.18E-05	1.52E-04
Cadmium	0	2.40E+00	5.00E+00	2.45E-04	7.58E-04
Chlorine				0.00E+00	0.00E+00
Chromium (hex)	0	1.33E+01	5.00E+01	1.36E-03	7.58E-03
Chromium (tri)	2	4.10E+00	1.00E+01	4.19E-04	1.52E-03
Copper	10	3.20E+01	8.30E+01	3.27E-03	1.26E-02
Cyanide (amen)	0	1.00E+01	1.00E+01	1.02E-03	1.52E-03
Lead	2	3.20E+00	5.00E+00	3.27E-04	7.58E-04
Mercury	0	3.00E-01	8.00E-01	3.07E-05	1.21E-04
Nickel	4	1.98E+01	9.00E+00	2.03E-03	1.36E-03
Phenol	4	5.16E+01	1.00E+02	5.28E-03	1.52E-02
Selenium	1	8.70E+00	1.00E+01	8.90E-04	1.52E-03
Silver	4	3.10E+00	4.00E+00	3.17E-04	6.06E-04
Thallium	0	5.80E+00	1.00E+01	5.93E-04	1.52E-03
Zinc	11	1.33E+02	2.00E+02	1.36E-02	3.03E-02

FINAL PERMIT CONDITIONS

Final WQB Limits

	AML (kg/d)	MDL (kg/d)
Zinc	0.086	0.172
Silver	0.001	0.003
Copper	0.026	0.068

Interim WQB Limits

	AML (kg/d)	MDL (kg/d)

Minimum Levels

Zinc	0.020 mg/L
Silver	0.002 mg/L
Mercury	0.0002 mg/L
Lead	0.005 mg/L
Copper	0.005 mg/L
Chromium (hex)	0.010 mg/L
Cadmium	0.0005 mg/L
Beryllium	0.001 mg/L
Arsenic	0.005 mg/L

Effluent Chemistry: REDDING WPCF

as of Friday, May 06, 2005

Design Flow 0.245 MG

Avg. Monthly Flow '03: 0.027 MGD
Max. Monthly Flow '03: 0.04 MGD

Receiving Waterbody: Norwalk River
Allocated ZOI: 0.70 cfs
Database IWC: 35.1% Site Specific

Date	BOD	TSS	NH3	NO2	NO3	CNT	CNA	BE	AS	CD	CR6	CR3	CU	PB	TH	NI	AG	ZN	AN	SE	PHEN	HG
1/11/2000	15.00	23.00	< 0.05	0.219	2.25	< 10.0	< 10.0	< 0.5	< 5.0	< 5.0	< 10.0	< 5.0	17.0	< 5.0	< 0.0	< 5.0	< 2.0	64.0	< 3.0	< 10.0	< 10.0	< 0.2
7/12/2000	< 1.00	13.50	0.28	0.133	2.26	< 10.0	< 10.0	< 1.0	<10.0	< 3.0	< 10.0	< 5.0	21.0	< 3.0	< 10.0	< 9.0	< 3.0	75.0	< 8.0	< 10.0	< 100.0	< 0.2
1/30/2001	23.70	< 0.50	< 0.05	< 0.005	1.95	< 10.0	< 10.0	< 0.5	< 5.0	< 0.5	< 10.0	< 5.0	8.0	< 5.0	< 10.0	< 5.0	< 2.0	200.0	< 3.0	< 10.0	< 100.0	< 0.2
4/3/2001	6.00	2.00	1.36	0.385	7.53	< 10.0	< 10.0	< 1.0	<10.0	< 3.0	< 10.0	< 5.0	< 6.0	< 3.0	< 10.0	< 9.0	< 3.0	289.0	< 8.0	< 10.0	< 50.0	< 0.2
7/17/2001	2.00	< 0.50	1.67	0.222	0.83	< 10.0	< 10.0	< 1.0	<10.0	< 3.0	< 10.0	< 5.0	< 6.0	< 3.0	< 10.0	< 9.0	< 3.0	42.0	< 8.0	< 10.0	< 50.0	< 0.2
1/8/2002	2.00	< 0.50	1.02	0.012	0.56	< 10.0	< 10.0	< 0.5	< 5.0	< 5.0	< 10.0	< 5.0	8.0	< 5.0	< 10.0	< 5.0	< 2.0	168.0	< 3.0	< 10.0	< 50.0	< 0.2
7/30/2002	10.00	13.00	< 0.05	< 0.050	1.20	< 10.0	< 10.0	< 0.5	< 5.0	< 5.0	< 10.0	< 5.0	16.0	< 5.0	< 10.0	< 5.0	< 2.0	138.0	< 3.0	< 10.0	100.0	< 0.2
1/14/2003	2.10	< 1.00?	0.10	< 0.300	9.45	< 10.0	< 10.0	< 1.0	< 4.0	< 4.0	< 50.0	<10.0	100.0	< 5.0	< 2.0	180.0	10.0	< 10.0?	< 10.0	10.0	27.0	< 0.2
7/31/2003	< 2.00	< 5.00	0.98	< 0.010	2.20	< 10.0	< 10.0	< 1.0	< 4.0	< 0.2	< 10.0	< 1.0	13.0	< 1.0	< 2.0	4.0		176.0		< 10.0	< 15.0	< 0.8
1/30/2004	37.00	48.00	19.00	0.040	0.21	< 10.0	< 10.0	< 1.0	< 4.0	< 0.2	< 10.0	1.0	83.0	1.0	< 2.0	< 1.0	4.0	125.0	< 5.0	< 2.0	66.0	< 0.2
2/4/2004	43.00	37.00	25.00	< 0.010	< 0.05	< 10.0	< 10.0	< 1.0	< 4.0	< 0.2	< 10.0	1.0	76.0	1.0	< 2.0	1.0	✓2.0	123.0	< 5.0	< 10.0	< 15.0	< 0.2
3/2/2004	23.00	15.00	10.00	0.050	1.80	< 10.0	< 10.0	< 1.0	< 4.0	< 0.2	< 10.0	< 1.0	30.0	< 1.0	< 2.0	5.0	✓1.0	184.0	< 5.0	< 2.0	36.0	< 0.2

	BOD	TSS	NH3	NO2	NO3	CNT	CNA	BE	AS	CD	CR6	CR3	CU	PB	TH	NI	AG	ZN	AN	SE	PHEN	HG
count	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	11	12	11	12	12	12
# detected	10	7	9	7	11	0	0	0	0	0	0	2	10	2	0	4	4	11	0	1	4	0
average	13.90	13.25	4.96	0.120	2.52	10.0	10.0	0.8	5.8	2.4	13.3	4.1	32.0	3.2	5.8	19.8	3.1	132.8	5.5	8.7	51.6	0.3
maximum	43.00	48.00	25.00	0.385	9.45	10.0	10.0	1.0	10.0	5.0	50.0	10.0	100.0	5.0	10.0	180.0	10.0	289.0	10.0	10.0	100.0	0.8
CV	1.1	1.2	1.7	1.1	1.2	0.0	0.0	0.3	0.4	0.8	0.9	0.7	1.1	0.6	0.8	2.5	0.8	0.6	0.5	0.4	0.7	0.7

CU
Permit limit

Permit limit